

### The Ambiguous Role of Ethnic Context: a Multi-Level Analysis of the Relationship between Group Size and Labor Market Integration of Three Immigrant Groups in Germany

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# **The Ambiguous Role of Ethnic Context**

**A Multi-Level Analysis of the Relationship between Group Size and Labor Market Integration of Three Immigrant Groups in Germany**

Friedrich Scheller



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## Abstract

The paper analyses the role of the relative regional group size for the labor market integration of three different ethnic groups in Germany. The analysis addresses the question of whether there is a consistent group size effect, or if group size functions differently for different immigrant groups and for different indicators of labor market integration in Germany.

Using data provided by the German Socio-Economic Panel Study (SOEP) multilevel cross-classification models are fitted. The final dataset contains 10,970 observations from Turkish, Greek, and Italian immigrants, and their offspring. Results generally show no effect of relative regional group size on the risk of unemployment, but a significant effect on job status. The effect is nonlinear, and manifests differently for each ethnic group. It becomes apparent that findings on the relationship between group size and labor market integration found for one immigrant group cannot readily be extended to other origin groups.

Keywords: group size, labor market integration, migration, cross-classification

## Zusammenfassung

Der Aufsatz analysiert die Bedeutung des regionalen Bevölkerungsanteils einer Herkunftsgruppe für die Arbeitsmarktintegration von drei Migrantengruppen in Deutschland. Dabei wird untersucht, ob ein einheitlicher Effekt der Gruppengröße besteht, oder ob sich die Gruppengröße für verschiedene Migrantengruppen und verschiedene Indikatoren der Arbeitsmarktintegration unterschiedlich auswirkt.

Für die Analyse werden Daten des Sozio-oekonomischen Panels (SOEP) verwendet und kreuzklassifizierte Mehrebenenmodelle geschätzt. Der verwendete Datensatz enthält 10.970 Beobachtungen von Befragten mit türkischem, griechischem oder italienischem Migrationshintergrund. Es zeigt sich grundsätzlich kein signifikanter Effekt der regionalen Gruppengröße auf das Arbeitslosigkeitsrisiko. Für den Status Erwerbstätiger findet sich ein signifikanter, nichtlinearer Effekt, der allerdings zwischen den verschiedenen Herkunftsgruppen variiert. Deutlich wird, dass Ergebnisse zum Zusammenhang zwischen regionaler Gruppengröße und der Arbeitsmarktintegration einer Herkunftsgruppe nicht auf andere Herkunftsgruppen (und Indikatoren der Arbeitsmarktintegration) übertragen werden können.

Schlüsselwörter: Gruppengröße, Arbeitsmarktintegration, Migration, Kreuzklassifizierung

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## 1 Introduction

Labor market integration is often considered a basic precondition for participation in a society. The labor market not only provides individuals with sufficient income to support themselves; it also provides people with access to social interactions and the opportunity to acquire social standing. Thus, participation in the labor market is often cited as being a crucial aspect of the overall integration (or assimilation) of immigrants (Alba & Nee, 2003, p. 28). However, immigrants have been shown to have lower levels of labor market success than natives, not only in terms of their labor market access (i.e., the level of employment), but also in terms of the characteristics of the jobs (i.e., income or status) held by those who are employed (see, e.g., OECD, 2007).

While individual characteristics play an important role in these differences (Becker, 1993; Constant & Massey, 2005; Friedberg, 2000; Mincer, 1974), the regional context can also have a considerable impact on labor market opportunities. When looking at the specific case of immigrant labor market participation, it can be seen that another factor in addition to the overall availability of opportunities may be relevant: namely, that the labor market performance of immigrants is influenced by the spatial proximity of other members of the same ethnic group.

However, there is no universally valid explanation for the effects of group size on labor market outcomes that is applicable to the situations of all ethnic groups in all regional contexts. Theoretically, there are partially conflicting assumptions based on a range of questions: To what degree does group size influence the composition of individual contact networks and their potential effects on labor market access? Do ethnic enclaves emerge which are linked to improved labor market chances for those who are associated with the enclave? Can ethnic enclaves offer job opportunities that are qualitatively equivalent to those available in the mainstream labor market? Or is growth in the number of same-country immigrants associated with diminished opportunities in the labor market because of factors such as increasing discrimination? And to what extent are the potential effects of regional group size dependent on other contextual factors at a regional level?

Various studies have analyzed the relationship between the size or the concentration of an ethnic group and the labor market activity of its members (e.g. Greenlees & Saenz, 1999; Hamm & McDonald, 2015; Johnson et al., 2012; Shin & Liang, 2012; Tienda & Lii, 1987 and Tigges & Tootle, 1993 for the USA; Evans, 1989 for Australia; Roth et al., 2012 for Canada; Clark & Drinkwater, 2002 for the UK; Grönqvist, 2006 for Sweden; Kogan & Kalter, 2006 for Austria; Semyonov, 1988 for Israel). Still, these studies vary hugely, e.g. with regard to the national and regional context, the operationalization of labor market outcomes and the ethnic groups that are analyzed. Many studies focus on traditional countries of immigration (e.g. the United States or Canada) and on relatively big groups,



e.g. on the black population in the United States. Some, but certainly less, research exists on the role of ethnic context in still relatively new countries of immigration in Europe.

Using longitudinal data, this paper aims to extend the state of research by analyzing the role of relative regional group size in the labor market integration of different immigrant groups in Germany. Since in Germany even bigger immigrant groups are comparatively small and the overall level of ethnic segregation is rather low (Schönwälder & Söhn, 2009), the specific regional contextual conditions (and thus group size effects) for immigrant groups may be different. Labor market outcomes vary, however, also between immigrant groups in Germany (Bender & Seifert, 1996; Lehmer & Ludsteck, 2011). While differences in levels of human capital are assumed to be the main reason for these findings, the question of whether and, if so, how the size of each regional group influences immigrants' labor market integration in Germany has so far been given comparatively little attention.

Hence, after presenting the theoretical background and the current state of empirical research, the role of relative regional group size on the labor market integration of three immigrant groups in Germany is analyzed. Data provided by the German Socio-Economic Panel Study (SOEP) are used which were merged with additional regional information. In contrast to most existing studies, the analysis focuses on possible differences between ethnic groups, asking if there is a consistent linear or nonlinear group size effect, or if group size functions differently for the Turkish, Italian and Greek immigrant groups in Germany. It is assumed that group size can influence different aspects of labor market integration in different ways. Thus, in order to broaden the perspective, the relationship between immigrant group size and unemployment is examined in addition to a possible effect of group size on job characteristics, which has been analyzed more frequently but only affects the working population.

## 2 Theoretical Background

The relationship between immigrant group size and labor market integration can be discussed from several theoretical perspectives. First, group size may influence the composition of personal contact networks, which may in turn be related to labor market-specific problems and opportunities. This first theoretical aspect is the effect from a social capital perspective, and is mainly associated with the expectation of a negative relationship between group size and labor market integration. Based on the assumption that actors prefer to have contact with 'similar' people (Lazarsfeld & Merton, 1954; Verbrugge, 1977), and that people of the same origin, on average, tend to be more similar, it can be expected to find that the share of contacts within a given ethnicity will grow when opportunities to meet people of the same ethnicity increase. Accordingly, if the share of the population

made up of members of an individual's own ethnic group increases, the individual's opportunities for intraethnic contacts will also rise (Blau, 1977, 1994; Lievens, 1998; Mouw & Entwisle, 2006).

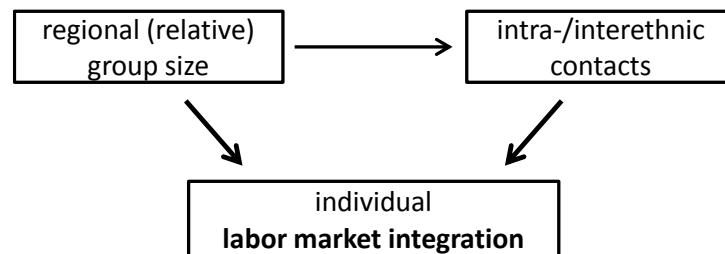
The origin of personal contacts can be of particular importance for labor market integration. Intergroup contact may be expected to provide access to resources outside of the individual's immediate personal environment (Burt, 1992; Granovetter, 1973). This contact can confer upon the individual certain advantages when entering the labor market, including access to better and higher status jobs, as many opportunities are available only through information and resources provided by external contacts. Thus, if it is assumed that the (relative) size of the individual's own ethnic group has a negative effect on interethnic contact, and that there is a positive relationship between having contacts beyond a relatively homogenous ethnic network and having access to jobs, group size may be expected to have a negative effect on labor market opportunities. This assumption should apply in particular to members of ethnic groups of relatively low socio-economic status, as these groups cannot provide their members with sufficient labor market-related resources.

Second, group size can facilitate the existence of group-specific opportunity structures, such as ethnic enclaves, that can play a significant role in the labor market success of immigrants. This theoretical aspect addresses the increased probability that an ethnic economy will emerge when an ethnic group makes up a relatively large share of the population (Wilson & Portes, 1980). Especially in contexts in which immigrants face barriers to entering the general labor market, ethnically shaped economic structures can facilitate job access. From this point of view, immigrants' rates of unemployment should decrease when their group size increases. At the same time, however, upward mobility in an ethnic economy may be limited due to less differentiation and fewer career opportunities. This can lead to a "mobility trap" (Wiley, 1970), whereby immigrants use their knowledge mainly within the confines of their own ethnic community, and the portability of this knowledge to jobs outside of the community is constrained. However, members of higher status groups who establish a more differentiated ethnic economy may be able to find better labor market opportunities through intragroup contact (Ooka & Wellman, 2006).

Third, differences in the size of an immigrant group relative to the general population may positively or negatively influence natives' attitudes and behavior towards members of this group. For natives, interethnic contacts should increase as the share of immigrants in the population grows (Fitzpatrick & Hwang, 1992). These contacts can help to counteract prejudice towards immigrants and to lower barriers to the labor market (Allport, 1954). However, when an immigrant group is perceived as being a competitor for resources, group-specific social distance and labor market discrimination may increase as the group becomes larger (Blalock, 1967; Fossett & Kiecolt, 1989).

The interrelationship between group composition, the native environment, and the effects of inter- and intraethnic contact is also addressed by the theory of segmented assimilation (Portes, 1995; Portes et al., 2005; Portes & Zhou, 1993). Depending on the relationship between the resources the immigrant group members can provide on the one hand, and the resources (e.g., socio-economic status) the non-immigrants in the local environment can provide on the other, intragroup contacts can have a positive or a negative effect on immigrants' socio-economic integration. These effects are positive if the immigrants can avoid 'downward assimilation' to lower status groups in the country of immigration. Formally, the effect of group size depends not simply on the number of group members, but on the ethnic resources of these members relative to the resources of the native population (Aguilera & Massey, 2003; Sanders et al., 2002). Additionally, high levels of social distance or discrimination may lead to the selection of group-specific opportunities and stronger group size effects, while a relatively open labor market could reduce the effects of group size on the individual labor market opportunities of immigrants (Esser, 2004, 2008).

**Figure 1: Theoretical Relationship between Group Size, Contacts, and Labor Market Integration**



In sum, the size of an immigrant group can function as an opportunity structure that is relevant for labor market integration in two main ways (Figure 1). First, group size can influence individual contact networks. High levels of intragroup contact are often assumed to have a negative impact on the labor market chances of the group members because these immigrants may fail to build 'bridges' to external networks. However, being part of a denser intraethnic network may provide immigrants with support. Second, ethnic group size can affect the labor market integration of individuals, as being a sufficiently large group is a basic precondition for the formation of an ethnic enclave economy. This effect may vary by the degree of differentiation of an ethnic enclave and the existence of labor market opportunities outside of the enclave. Finally, the selection of group-specific labor market options by group members depends not only on the availability of an ethnic enclave economy, but also on the degree of social distance towards group members, which again can vary with the size of the immigrant group.

Based on these assumptions, it can, first, be generally hypothesized that, given the various and sometimes contradictory interrelations that operate simultaneously, group size should not have a simple linear effect on labor market integration. As different aspects of how group size affects the labor market integration of ethnic groups may be of varying importance to different groups, the effect may also vary between countries of origin. Second, it can be expected to find that group size has different effects on general access to the labor market on the one hand, and on the economic status of those who already have access to the labor market on the other. For example, an ethnic enclave economy may have a positive effect on the initial labor market integration of immigrants by lowering the risk of unemployment within the enclave, but it can also have a negative impact on the status of those who are already employed because they have access to a less diverse supply of jobs than is available in the mainstream labor market.

### 3 Previous Findings on the Relationship between Immigrant Group Size and Labor Market Performance

Empirical findings have confirmed the ambiguous character of the theoretical assumptions. This ambiguity is possibly increased even further by the different methodological approaches and different measures of group size used in existing studies (Pottie-Sherman & Wilkes, 2017). For the United States, absolute or relative group size has been found to have negative effects on various aspects of labor market success among the black population, but also among Hispanics and Asian immigrants (Beggs et al., 1997; Cohen, 1998; Galster et al., 1999; Greenlees & Saenz, 1999; Johnson et al., 2012; Mora & Dávila, 2005; Saenz, 1997; Semyonov et al., 1984; Tienda & Lii, 1987; Tigges & Tootle, 1993). Nevertheless, some studies have found a nonlinear or positive relationship between group size and labor market success (Borjas, 1995; Boyd, 1991; Katzman, 1969; Stewart & Hyclak, 1979) and group size and job-finding assistance (Hamm & McDonald, 2015), or varying effects among different ethnic groups (Shin & Liang, 2012; Wang, 2008).

Contradictory results have been found for other countries as well. On the one hand, group size has been shown to have positive effects on self-employment among different ethnic groups in Australia (Evans 1989); to be associated with a reduced risk of unemployment in Sweden (Bevelander & Pendakur, 2012; Grönqvist, 2006); to go along with occupational advantages for Arabs in Israel (Semyonov, 1988) and, when measured at the national level, to be generally linked to increased labor market participation (van Tubergen et al., 2004). On the other hand, Musterd et al. (2008) found that group size had negative effects on the incomes of immigrants in Sweden; Warman (2007) found a negative effect on earnings growth in Canada; Clark and Drinkwater (2002) reported that group size had negative effects on the risk of unemployment and on self-employment in England and Wales; and Kogan and Kalter (2006) found for Austria that group size

had a negative effect on job status among immigrants from former Yugoslavia, but a positive effect on job status among Turkish immigrants.

Empirical findings on labor market-related effects of immigrant group size at the regional level in Germany are scarce. Schaffner and Treude (2014) analyzed the labor market effect of immigrant group size at the post code level, and found a mostly negative enclave effect. At the still relatively low regional level of German counties (*Kreise*), Granato (2009) found that the size of the Turkish population had a mostly negative effect on the socio-economic status and the incomes of Turks who were employed and had a high level of education. In addition, Granato (2009) found that a particularly large group size had a positive impact on the status of well-educated Turks in Germany. Thus, while no general group size effect for Turks in Germany has been found, the results generally support the assumption that there is a ‘mobility trap’ for immigrants with higher education that decreases when group size and related opportunities increase. Moreover, at the very broad regional level of federal states, Kanas et al. (2012) found that relative group size had a small negative effect on the economic returns of host-country human capital, based on their analysis of the effects of group size among different immigrant groups. Schunck and Windzio (2009) also found that the regional share of an immigrant group had a positive effect on the probability of self-employment among immigrants in some regions. Finally, the results of Weins (2011) regarding the possibility of a nonlinear relationship between the share of foreigners in the population at the regional level and the level of prejudice against foreigners support the assumption that when the share of foreigners is relatively high, the level of perceived threat and of social distance increases; but that prejudice against foreigners does initially decrease when the number of foreigners grows on a lower level. However, Semyonov et al. (2004) did not find such an effect.

Yet, even though these studies provide some insight into the relationship between the group size and the labor market success of group members in Germany, it remains unclear whether the results found by Granato (2009) for Turkish immigrants are equally valid for other ethnic groups in Germany. Generally, differences between countries of origin play a relatively minor role in the literature. Kanas et al. (2012) tended to support the finding that also for other ethnic groups, the effect of group size is related primarily to the level of human capital. Their analysis focused mainly on individual contact networks and included regional characteristics at the level of the federal states. The bigger federal states in particular represent regions that are much larger in scale than the average everyday environments and regional opportunity structures of individuals. However, Schaffner and Treude (2014) found an effect that is both negative and linear on labor market outcomes at the small-scale neighbourhood/post-code level. Here again, the available (ethnic) opportunity structures in the regional environment may be underestimated, as working and living often do not take place in the same post code region. Labor market opportunities in areas within commuting distance may not be fully considered.

In order to extend the still ambiguous current state of research, the focus in the following analysis is on identifying the group size-related effects on two different aspects of labor market integration using a multilevel approach. While previous studies mostly focused on status and earnings of the working population, the access to the labor market is also examined. Moreover, the analysis does account for the possibility that there are conflicting nonlinear effects, and that group size may have different effects among different ethnic groups. In addition, group size is measured at a regional level in order to examine the labor market at a scale that is presumably relevant for individual labor market integration.

The role of group size is analyzed for Greek, Italian and Turkish origin immigrants. Large shares of the immigrants who entered Germany between the 1950s and 1973 as so-called ‘guest workers’ came from these countries (Chin, 2009).<sup>1</sup> It can therefore be assumed that at the time of immigration, most of the first-generation immigrants from these countries had a comparable socio-economic status and broadly comparable contextual conditions. Yet over time, large and persistent differences in levels of labor market integration have been observed between members of these groups (Bender & Seifert, 1996; Lehmer & Ludsteck, 2011).

These differences may partially be attributed to group-specific differences regarding the ethnic context. E.g., being the biggest immigrant group included in the analysis, the Turkish origin group may have established a more differentiated enclave economy in some regions. The Turkish origin group is, however, often found to encounter discrimination due to cultural and religious differences to the majority society (Alba, 2005; Kaas & Manger, 2012). Thus, Turkish origin immigrants may face increasing social distance with group size more than other origin groups. Lower cultural distance and lower overall group sizes may then be related to a less pronounced negative group size effect for the Greek and Italian origin groups. The small overall size of the Greek origin group in Germany may at the same time go along with a limited ability to establish a differentiated enclave economy that provides higher status jobs. Again, as multiple effects may occur simultaneously, the question of if and how group size affects the labor market integration of these three groups can only be answered empirically.

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<sup>1</sup> The analysis had to be limited to these countries from which large numbers of guest workers immigrated. The numbers of cases for members of other ethnic groups with a similar history of immigration to Germany (e.g., Portugal and Spain) are much lower.



## 4 Data

For the analysis, data provided by the German Socio-Economic Panel Study (SOEP) are used (Wagner et al., 2007). These data include annually collected individual-level information on various aspects of social and economic life. Immigrants who come from the main countries of origin of former guest workers have been disproportionately sampled. Because the number of immigrants living in eastern Germany has been very low in recent decades, the data collected from respondents in western Germany and Berlin from 1996 to 2011 are used. As participation in the survey does not end if a respondent moves to a different region, the longitudinal structure also allows for the analysis of individuals who were living in different regional contexts while participating.

Regional information was provided by the German statistical offices, and was added on the level of the planning regions (Raumordnungsregionen; see Böltken, 1996). These regions are based on commuter flows and consist of one or several counties. It can be assumed that for most people, daily life takes place within a single planning region; i.e., that people live, work, and engage in recreational activities within a given region (Legewie, 2008). Therefore, each planning region should reflect the regional labor market that is accessible to the individual, including the labor market opportunities in the ethnic community. Thus, the regional data at the level of planning regions should represent the actual contextual opportunity structure more precisely than data on a broader (or a more narrow) regional level. In total, 70 planning regions of western Germany and Berlin are used.

The ethnic origin of respondents was included using information on country of birth, nationality as well as characteristics of the parents (see Scheller, 2011 for details on the identification of countries of origin in the SOEP data). Thus, the labor market situations of Turkish, Greek, and Italian immigrants, and of their offspring, are compared. The final dataset contains 10,970 observations from 1,878 respondents aged 18 to 64 at the time of the interview, with 5,990 observations from 1,044 respondents of Turkish origin, 1,697 observations from 298 respondents of Greek origin, and 3,283 observations from 536 respondents of Italian origin.

### 4.1 Dependent Variables: Labor Market Integration

Labor market integration is analyzed using two different indicators. First, the job status of all of the working respondents is measured using the International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom et al., 1992). Second, to analyze labor market entry for the entire labor force, unemployment is observed for all of the respondents who are either employed or unemployed.

## 4.2 Regional Context

At the level of planning regions, the regional share of the population with each of the three ethnic backgrounds (measured by nationality) was added to the data for all of the years studied. Hence, the group size is measured by the number of individuals who belong to the ethnic group relative to the total regional population. For some years and regions, the statistical offices could not provide the required information. In these cases, values were imputed using information from previous and subsequent years. Thus, information on relative regional group size is available for all waves from 1996 to 2011. To account for more general regional characteristics, the regional rate of unemployment, the (real) GDP, and the population density were also added at the level of planning regions.

## 4.3 Individual Level Variables

At the individual level, the ethnic ‘openness’ of a contact network is operationalized using information on the respondent’s partner. A variable was created that differentiates between respondents who were living with a partner of the same origin, of German origin, or of another origin; or who were living alone. As a result of including the ethnic origin of the partner in multivariate models, remaining group size effects presumably reflect more general opportunity structures beyond an effect of group size on very close individual contacts.<sup>2</sup>

Other independent variables provide further information on the migratory status of the respondents. The respondents were separated into three categories: first-generation immigrants who immigrated before 1973 (the year when Germany stopped its official recruitment of guest workers), those who immigrated after 1973, and those who were born in Germany or immigrated before the age of six. This approach allows to differentiate roughly between ‘classical’ labor migrants, their family members who subsequently immigrated through family reunification, and members of successive generations who face a different set of labor market challenges (see, e.g., Bender & Seifert, 1996). Whether the respondents are German citizens has also been accounted for.

Moreover, the dataset contains information on age, sex, level of education (Becker, 1993), and perceived health (Bartel & Taubman, 1979). To account for the impact of family-

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<sup>2</sup> Every five years the panel also contains a question that asks about the respondents’ ‘three best friends’ and their country of origin. This information can be used to create a variable about the ‘openness’ of a friendship network. As this information was only available for the years 1996, 2001, 2006, and 2011, the number of available observations is significantly reduced when this variable is used. Therefore, the variable was not included in the final analyses. However, tests showed no substantial differences in the results when friendship networks were included. An additional variable that contains information on (interethnic) visits to Germans was not included as using this information would also have reduced the number of observations significantly.

related responsibilities, household size and information about whether children under the age of 16 live in the household have also been included. For the analysis of job status, self-employment and the economic sector in which the respondent works were controlled for. Finally, to account for possible nonlinear effects, two variables containing the squared values of age and relative group size were added to the dataset.

## 5 Descriptive Findings

Table 1 shows the descriptive findings for all of the included variables. The results are given for the total sample and for each of the three groups of origin separately. It should be noted that the values given here are weighted by frequency of participation in order to prevent biased results, as the frequency of participation varies between respondents.

For the indicators of labor market integration, considerable differences between the ethnic groups can be observed. Labor market integration is lowest for the Turkish origin group: on average, members of this group have the lowest ISEI levels and the highest levels of unemployment. On average, employed members of the Greek origin group have the highest socio-economic status, while members of the Italian origin group are the least likely to be unemployed.

The Turkish origin group is by far the biggest of the three groups in Germany. Thus, most of the respondents live in regions in which the Turkish origin group is the largest, while the Greek origin group is the smallest of the three groups studied. However, for all of the ethnic groups the share of their own group relative to the general population in the region where they live is consistently higher than average. Additionally, respondents of Greek origin tend to live in regions where the economy is stronger, while respondents of Italian origin tend to live in regions where unemployment is relatively low. By contrast, respondents of Turkish origin are not only more likely than average to be unemployed at the individual level, they also tend to live in regions with high overall rates of unemployment.

The members of the Turkish origin group are on average younger than the members of Italian and Greek origin groups, and a large number of Turkish immigrants entered Germany after 1973. Having arrived more recently has implications for German language proficiency, which is of considerable importance for labor market integration. Around one-fifth of the Turkish origin group are German citizens, compared with just eight per cent of the Greek origin group. However, as Italy and Greece are members of the European Union, becoming a German citizen should be less important for the labor market integration of these groups than it is for the integration of the Turkish origin group.

**Table 1: Descriptive Statistics**

	Averages/Shares				N observati- ons (total)
	Total	TUR	GRE	ITA	
<i>Dependent variables</i>					
ISEI	36.1	35.2	38.6	36.4	8,783
Unemployed (%)	17.7	20.9	14.5	13.3	10,970
<i>Independent variables</i>					
Living alone (%)	30.1	28.1	34.1	34.1	10,970
Intraethnic partner (%)	58.4	66.0	55.1	45.4	10,970
Interethn. partner (GER) (%)	8.7	4.5	7.4	17.7	10,970
Interethn. Partner (other) (%)	2.1	1.4	3.3	2.9	10,970
Children under 16 in hh. (%)	51.8	61.1	33.5	43.8	10,970
Hh. size (no. of persons)	3.6	3.9	3.3	3.3	10,970
1st Generation, until '73 (%)	21.9	16.9	33.8	25.2	10,970
1st Generation, after '73 (%)	29.5	37.1	18.0	20.9	10,970
Following generation (%)	42.6	40.3	42.6	47.3	10,970
1st Generation, no answer (%)	6.0	5.7	5.7	6.6	10,970
German citizenship (%)	17.0	19.9	7.8	16.3	10,970
Age (years)	36.6	35.4	39.0	37.6	10,970
Sex: female (%)	41.0	38.7	47.0	42.1	10,970
Education: low (%)	50.0	51.6	49.9	46.7	10,970
Education: medium (%)	41.3	40.6	38.6	44.2	10,970
Education: high (%)	8.7	7.8	11.5	9.1	10,970
Health: bad (%)	60.8	62.4	61.7	57.3	10,970
Health: medium (%)	25.2	24.1	24.8	27.6	10,970
Health: good (%)	13.9	13.5	13.4	15.0	10,970
Self-employed (%)	7.9	8.1	8.8	7.0	8,783
Prim./Secondary sector (%)	41.1	41.2	44.1	39.3	8,783
Tertiary Sector (%)	58.9	58.8	55.9	60.7	8,783
<i>Regional Context</i>					
Share TUR (%)	3.3	3.3	3.5	3.0	10,970
Share GRE (%)	0.7	0.6	1.0	0.6	10,970
Share ITA (%)	1.2	1.1	1.4	1.4	10,970
GDP/inhab. (real, in 1000€)	29.2	29.1	30.4	28.7	10,970
Unemployment rate (%)	8.9	9.4	8.6	8.2	10,970
Population density/km²	636.2	685.9	706.4	499.3	10,970

Own calculations using SOEP (1996-2011); Regional context data provided by the Statistical Offices of the Länder, Federal Statistical Office, BBSR; Values weighted by frequency of participation, N observations not weighted

The descriptive findings on contacts at the individual level also mostly confirm the theoretical assumptions about the relationship between group size and intra- or interethnic contacts. Members of the Turkish group who live in regions in which the probability of intragroup contact is high because their group size is large are less likely to have a partner of a different origin than those of Greek or Italian origin. Respondents of Italian origin are the most likely to have an interethnic partner. Around one in five respondents of

Italian origin live with a partner of a different ethnic origin, compared with one in 10 respondents of Greek origin and one in 20 respondents of Turkish origin.

When looking at the relationship between group size and labor market integration, the descriptive analysis indicates an inconsistent effect of group size among the ethnic groups. For the Greek and Italian origin groups a negative correlation between group size and labor market success can be observed for both indicators (Table 2). For these ethnic groups, a relatively large share of the regional population generally goes along with a lower average ISEI status and higher rates of unemployment. Findings for the Turkish origin group are less straightforward. While ISEI values differ only slightly between regions with different shares of the Turkish population, the relationship between group size and unemployment appears to be u-shaped for the Turkish origin group.

**Table 2: Group Size and Labor Market Integration**

		Dimensions of Labor Market Integration					
		ISEI (Ø)			Unemployed (%)		
		TUR	GRE	ITA	TUR	GRE	ITA
Relative Size of the Own Group	<1%	34.7	39.7	37.5	24.6	11.0	12.3
	1%-3%	34.8	37.0	36.1	18.3	19.1	13.7
	≥3%	35.4	-	(33.3)	22.0	-	13.2

Own calculations using SOEP (1996-2011); Regional context data provided by the Statistical Offices of the Länder; Values weighted by frequency of participation; (...) Results based on less than 100 observations

Overall, the bivariate analysis supports the assumption that group size has different effects on the labor market integration of different ethnic groups. No positive effects (e.g., employment effects related to an emerging enclave economy) are found for the Greek and Italian origin groups. However, results for the Turkish group are less clear. While it is not possible to separate group-specific characteristics from other regional or individual characteristics in the current analysis or to account for other theoretically plausible mechanisms that could explain a group size effect, the following section attempts to further disentangle the connection between group size and labor market integration using multivariate analysis.

## 6 Multivariate Analysis

### 6.1 Method

To account for the clustering of individuals in superordinate entities, multilevel models are estimated. These models allow for the consideration of the dependency of individuals within clusters and of possible factors of influence at the superordinate level. Classical multilevel modelling (see, e.g., Snijders & Bosker, 2012) allows for the estimation of three-level models. This approach can also be used for data in which the observations are nested in respondents who are nested in regions.

**Figure 2: Repeated Participation and Changes in Region**

year	person 1			person 2			person 3		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
region 1	X	X	X	X		X			X
region 2					X				
region 3								X	

Partly adopted from Goldstein 2011: 245

However, in basic three-level models a special feature of the data used here would be ignored. As some respondents who participated in the longitudinal survey more than once did not stay in the same region for the whole period of observation, not all of them can uniquely be assigned to a specific region (example in Figure 2). Thus, to avoid biased results, multilevel cross-classification models were fitted for the following analyses (Browne et al., 2001) using Markov Chain Monte Carlo estimation (Browne, 2012). Here, observations are uniquely nested in combinations of the cross-classified levels region and person. Using this approach, migration between regions can be adequately accounted for (Fielding & Goldstein, 2006, pp. 25 ff.). Generally, linear models were fitted for the ISEI scale, while logistic models were estimated for the binary dependent variable for unemployment (Wooldridge, 2010). Also, for the model estimation all continuous independent variables were grand mean centered (Hofmann & Gavin, 1998).



## 6.2 Models

As discussed above, some of the theoretical assumptions may be of greater importance for one group than for another. For example, while one group may be able to facilitate labor market access for its members by establishing an ethnic economy (e.g., because it has a relatively high group status), another group may face problems because of increasing social distance. In this scenario, an increase in the size of the group would be associated with a reduction in the risk of unemployment for the members of the first ethnic group, and with a higher probability of unemployment for the members of the second group. Thus, models were fitted that analyze the impact of relative regional group size on labor market integration for each ethnic group separately (Table 3). The relative sizes of all three ethnic groups were included in all models in order to analyze specific effects of the own group's size separately from possible more general or exogenous labor market effects that may be related to the size of a different ethnic group.

While the results show that there is no significant effect of either group size or squared group size for the respondents of Turkish origin, a significant and in both cases nonlinear relationship between group size and job status can be observed for the respondents of Greek and Italian origin. Whereas the effect of relative group size on job status differs considerably between the origin groups, the effect on the risk of unemployment is thoroughly insignificant.

Figure 3 shows the combined nonlinear effects of group size and squared group size on job status for both origin groups with significant effects. The areas between the dashed lines represent the sizes for both groups that are empirically observed in German planning regions. Although a nonlinear effect can be seen for both groups, this effect is mostly negative for the Greek origin group while it is mostly positive for the Italian origin group. The effect diminishes but remains negative for the Greek group when concentrating on cases in which the group represents less than two per cent of the regional population — the highest level the Greek population reaches in any region. For those respondents of Italian origin, the effect remains mostly above zero until the group represents about three per cent of the regional population. Thus, the effect is positive for most group members, as on average respondents of Italian origin live in regions where the Italian population make up 1.4 per cent of the population (Table 1).

As the case numbers for the Greek origin group are relatively low, the results for this group should be interpreted with caution. Keeping this in mind, it should be noted that the nonlinear group size effect observed here is mostly in line with the assumptions about an ethnic mobility trap. While the probability of having a job in an ethnic economy and of intragroup contact increases with group size, the accompanying disadvantageous effect of a mobility trap loses importance when the group size is larger and the ethnic economy structures presumably become more differentiated. Since even in regions where the Greek origin group is relatively big, the share of the Greek population

**Table 3: Separate Linear and Logistic Cross-classification Models by Country of Origin (Coefficients)**

	TUR		ISEI GRE		ITA		TUR		Unemployed GRE		ITA	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Origin of partner (Reference Cat.: Intraethn.)</i>												
Living alone	-0.06	(0.53)	-0.36	(1.23)	1.83*	(0.87)	-0.27	(0.22)	2.87*	(1.22)	-0.71	(0.43)
Interethn. partner (GER)	-0.16	(1.08)	3.70*	(1.87)	3.95***	(1.06)	-1.75***	(0.53)	1.15	(2.06)	-0.68	(0.55)
Interethn. Partner (other)	0.79	(1.92)	2.06	(2.82)	-1.04	(2.00)	-0.12	(0.72)	-6.36	(4.25)	1.97*	(0.88)
Children under 16 in hh.	-0.19	(0.39)	-1.36	(0.71)	0.61	(0.51)	-0.31	(0.19)	-0.22	(0.64)	-0.36	(0.29)
Household size	-0.23	(0.12)	-0.01	(0.33)	-0.36	(0.22)	-0.14*	(0.06)	0.52	(0.28)	0.07	(0.12)
<i>Time of immigration / Generation (Reference Cat.: 1st Gen., until '73)</i>												
1st Generation, after '73	-2.08	(1.23)	-1.34	(2.05)	1.10	(1.62)	0.09	(0.44)	0.85	(1.63)	0.93	(0.61)
Following generation	4.91***	(1.36)	5.36**	(2.06)	5.36**	(1.76)	-0.03	(0.50)	-0.33	(1.80)	0.09	(0.72)
1st Generation, no answer	3.82*	(1.85)	0.36	(2.99)	2.02	(2.53)	-0.59	(0.68)	-2.14	(2.28)	0.46	(0.96)
German citizenship	0.95*	(0.41)	4.58***	(1.34)	3.29**	(1.11)	0.25	(0.20)	-1.89	(1.53)	0.28	(0.53)
Age	0.49***	(0.14)	0.73**	(0.23)	0.46**	(0.16)	-0.22***	(0.06)	-0.52**	(0.16)	-0.39***	(0.08)
Age <sup>2</sup>	-0.01***	(0.00)	-0.01***	(0.00)	-0.01**	(0.00)	0.00***	(0.00)	0.01***	(0.00)	0.01***	(0.00)
Sex: female	-0.62	(0.73)	-0.38	(1.30)	-0.57	(1.05)	-0.14	(0.25)	-0.43	(1.03)	0.50	(0.39)
<i>Education (Reference Cat.: Medium)</i>												
Low	-0.78	(0.41)	0.18	(0.88)	-1.80**	(0.59)	-0.03	(0.19)	-2.23**	(0.81)	0.60	(0.31)
High	6.17***	(0.81)	15.51***	(1.48)	1.68	(0.98)	-0.88*	(0.39)	-2.61	(1.68)	-1.39	(0.73)
<i>Health (Reference Cat.: Medium)</i>												
Bad	-0.34	(0.42)	1.52	(0.86)	-0.82	(0.55)	0.72***	(0.18)	2.09***	(0.60)	0.96***	(0.29)
Good	-0.23	(0.28)	0.50	(0.54)	-0.04	(0.39)	-0.11	(0.14)	0.42	(0.48)	0.26	(0.23)

Table 3 (continued)

Self-employed	6.62***	(0.65)	5.01***	(1.30)	5.07***	(1.03)						
Tertiary Sector	2.06***	(0.39)	1.33	(0.76)	1.61**	(0.53)						
Regional Context												
Relative group size TUR	-1.50	(1.41)	5.30	(2.77)	-4.76*	(2.24)	-0.09	(0.57)	-1.41	(2.73)	-0.97	(0.94)
Relative group size TUR <sup>2</sup>	0.18	(0.19)	-0.51	(0.40)	0.60*	(0.31)	-0.03	(0.08)	0.41	(0.41)	0.10	(0.14)
Relative group size GRE	-1.34	(3.39)	-18.67**	(6.05)	2.32	(4.78)	-0.64	(1.40)	-2.99	(6.81)	-0.61	(1.74)
Relative group size GRE <sup>2</sup>	0.73	(1.58)	7.41*	(3.06)	-0.87	(2.03)	0.46	(0.67)	4.01	(3.42)	0.41	(0.83)
Relative group size ITA	2.44	(2.35)	0.96	(5.31)	8.87**	(3.43)	-0.16	(0.94)	6.84	(5.84)	0.43	(1.17)
Relative group size ITA <sup>2</sup>	-1.14	(0.73)	-0.40	(2.04)	-2.79**	(1.04)	0.06	(0.30)	-3.83	(2.32)	-0.18	(0.36)
GDP/inhabitant	0.12	(0.07)	0.04	(0.10)	-0.15	(0.11)	-0.01	(0.03)	0.10	(0.10)	0.06	(0.04)
Unemployment rate	-0.04	(0.08)	-0.02	(0.17)	-0.12	(0.13)	0.22***	(0.04)	-0.02	(0.15)	0.14*	(0.07)
Population density/km <sup>2</sup>	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Constant	32.37	(1.22)	33.01***	(1.71)	30.90***	(1.53)	-2.60***	(0.45)	-6.78***	(1.66)	-4.85***	(0.66)
N (observations)	4,614		1,422		2,747		5,990		1,697		3,283	
N (respondents)	895		265		484		1044		298		536	
DIC	30,734.8		9,604.0		18,768.4		3,611.2		564.3		1,370.8	

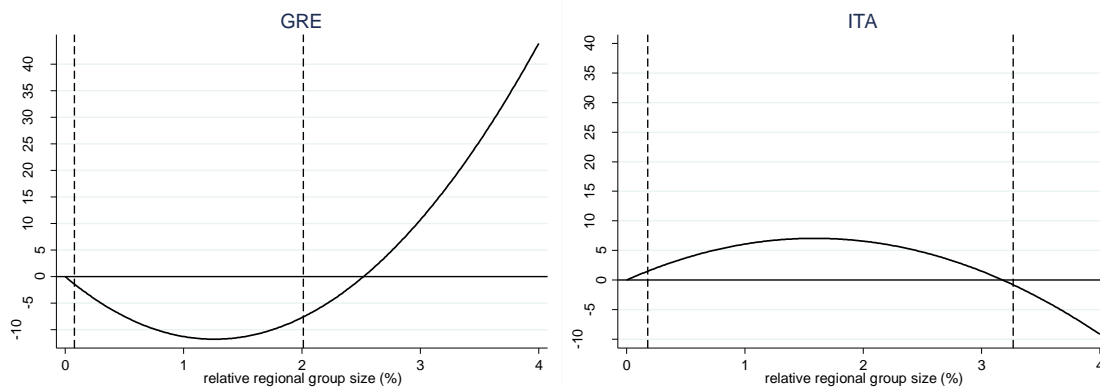
Own calculations using SOEP (1996-2011); Regional context data provided by the Statistical Offices of the Länder, Federal Statistical Office, BBSR; \* p<0.05, \*\* p<0.01, \*\*\* p<0.001; SE = Standard Error

is not higher than two per cent, explanations other than a differentiated enclave economy still need to be considered. In contrast, members of the Italian origin group apparently benefit from group-specific structures and tend to reach higher positions when the share of co-ethnics increases; although in this case the effect is less pronounced when the group is particularly large relative to the population. It thus appears that group-specific social distance may increase when Italians make up a relatively large share of the regional population.

Nonetheless, as group size is found to have no significant effects on the risk of unemployment, opportunities for higher status jobs inside an enclave economy are not accompanied by a higher level of employment for either group. Any positive enclave effects on employment may be offset by other negative mechanisms that hinder labor market entry. To account for intragroup heterogeneity, several models were fitted separately for different immigrant generations and levels of education (full results not shown). Results indicate a potentially higher risk of unemployment for respondents with higher education with increasing group size for all origin groups. However, low numbers of observations prohibit a more detailed interpretation of these results.

Only the Italian origin group's job status is additionally influenced by the regional share of one of the other groups. The job status of Italian-origin respondents is negatively related to the share of the Turkish population, although this effect decreases with an increasing Turkish group size. Apparently, competition for similar jobs between both ethnic groups (Borjas, 1987; Stevans, 1998; see also Granato, 2009) negatively affects the job status of the Italian group in regions where the generally bigger Turkish origin group is more strongly represented. At the same time, there is no evidence that the relative size of neither the own nor any of the other origin groups affects the labor market integration of respondents with Turkish origin.

**Figure 3: Observed Effect of Relative Group Size on Occupational Status (ISEI) for Greek and Italian Origin Groups**



## 7 Summary and Conclusion

Overall, the role of ethnic context for the labor market integration of immigrants in Germany remains ambiguous. The results paint a mixed picture of the relationship between relative group size and the labor market integration of immigrants in Germany. It became apparent that findings on the relationship between group size and labor market integration found for one immigrant group cannot readily be extended to other origin groups. The results indicate that an ethnic mobility trap exists for the relatively small Greek origin group. Accordingly, when the relative group size increases, the group members tend to work in lower status jobs within an emerging enclave economy. However, the opposite effect was observed for the Italian origin group. While this finding might indicate that members of this group are better at establishing differentiated labor market opportunities, the exact mechanisms that underlie these results remain unclear. When an effect was found for job status, the mostly nonlinear relationship also indicates that the group size effect has no general direction. If there is a mobility trap for the Greek origin group, it seems to disappear when the group is relatively large. If more differentiated labor market opportunities can be established by the Italian origin group, at some point, other (negative) factors gain in importance. Interestingly, no group size effect was found for the relatively big Turkish origin group.

Differentiating between the two dimensions of labor market integration turned out to be fruitful. While some evidence was found for an effect on job status, there is only scarce evidence of a connection between group size and the risk of being unemployed when other determinants are accounted for. There is no clear evidence that group size has an effect on ethnic enclave labor markets in Germany that facilitate labor market access for immigrants. Thus, while group size appears to be somewhat relevant for the discussion of status within the German labor market, labor market access was not shown to be generally affected by changing group-specific structural differences.

Those individuals who also have the opportunity to work in the general labor market may tend to choose lower status jobs within an ethnic enclave when these jobs are available. This finding would be in line with the results of earlier studies that found similar effects of group size on the status and incomes of immigrants in Germany, especially for immigrants with higher levels of education and thus better job opportunities outside the enclave (Granato, 2009; Kanas et al., 2012). In addition, the analysis of unemployment indicated that the enclave cannot offer additional job opportunities for those who do not have access to the general labor market. However, separate results for respondents with higher levels of education, based on low numbers of observations, indicated an increase of the risk of unemployment for this subgroup when the relative group size increases. Hence, other factors such as fewer interethnic contacts which could facilitate labor market integration or an increase of discrimination that impedes labor market entry and access to higher status jobs for higher educated immigrants also need to be considered.

It could not be clarified in detail to what extent group size is related to a group-specific structural context, to changing contact opportunities, or to the relationship between the native and the immigrant population. To investigate this question, more detailed data on the actual regional context—e.g., on the existence of ethnic businesses—would be needed. Future research that is less restricted by limited case numbers could focus on more immigrant groups, and examine the heterogeneous role group size plays in the labor market integration of immigrants in Germany. Intra-group heterogeneity could also be considered more specifically (e.g. with regard to generational and educational differences). Group-specific social closure or discrimination, or other non-measured individual characteristics of group members, might play a role. Finally, the causality of the relationship between group size and labor market status, while theoretically plausible, could not be empirically tested in this study.

Still, the analysis provides a partial response to the question by showing that neither ethnic enclaves nor any other group size-related effects play a central role in the labor market access of immigrants in Germany. At least without further differentiation group size was not shown to have a significant effect on the risk of unemployment for any of the three groups. Moreover, any discussion of the effects of group size on job status should take into account the fact that no general effect was found. With regard to the relationship between group size and labor market integration, the analysis showed that different immigrant groups need to be observed separately. The exact mechanisms of how relative group size and status are interrelated for the different groups of origin have been only vaguely identified. However, while the additional influence of the group-specific context continues to be unclear, the development of equality in education and access to the labor market remains fundamentally important.



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